Claims:

1. A transgenic non-human mammal comprising a polynucleotide encoding a human C5aR or humanized C5aR.

2. A transgenic non-human mammal according to claim 1, wherein the polynucleotide encodes human C5aR comprising a sequence as shown in SEQ ID NO:3, or an allelic variant thereof.

3. A transgenic non-human mammal according to claim 1, wherein the polynucleotide comprises a sequence as shown in SEQ ID NO:2, or an allelic variant thereof.

4. A transgenic non-human mammal according to claim 1, wherein the polynucleotide encodes humanized C5aR.

5. A transgenic non-human mammal according to claim 4, wherein the humanized C5aR comprises a C5aR sequence endogenous to the non-human mammal wherein at least one extracellular or intracellular domain is replaced with the corresponding human C5aR domain.

6. A transgenic non-human mammal according to claim 4, wherein the humanized C5aR comprises one or more intracellular domains of the C5aR sequence endogenous to the non-human mammal and one or more extracellular domains of human C5aR.

7. A transgenic non-human mammal according to any one of claims 1 to 6, wherein the transgenic mammal has somatic and germline cells which contain, in a stably integrated form, a polynucleotide encoding human or humanized C5aR.

8. A transgenic non-human mammal according to any one of claims 1 to 7, wherein the transgenic mammal is homozygous for human or humanized C5aR.

9. A transgenic non-human mammal according to any one of claims 1 to 8, wherein expression of endogenous C5aR in the transgenic mammal is undetectable or insignificant.

10. A transgenic non-human mammal according to claim 9, wherein the endogenous C5aR coding sequence or a fragment thereof has been replaced with a corresponding human C5aR coding sequence or fragment thereof by way of targeted homologous recombination.

11. A transgenic non-human mammal according to any one of claims 1 to 7, wherein the transgenic non-human mammal is selected from the group consisting of a cow, pig, goat, sheep, camel, horse, cat, dog, monkey, baboon, rabbit, guinea pig, rat, hamster and mouse.

12. A transgenic non-human mammal according to any one of claims 1 to 11, wherein the transgenic non-human mammal is a rodent.

13. A transgenic non-human mammal according to any one of claims 1 to 12, wherein the transgenic non-human mammal is a mouse.

14. An isolated cell(s), cell line, tissue or organ obtained from the transgenic non-human mammal of any one of claims 1 to 13, the isolated cell, cell line, tissue or organ comprising a polynucleotide encoding a human C5aR or humanized C5aR.

15. A method for producing a transgenic non-human mammal for testing compounds for an effect on a phenotype associated with C5aR signalling, the method comprising introducing into the genome of a non-human mammal a polynucleotide construct encoding human C5aR, humanized C5aR or a fragment of human C5aR, to produce a transgenic non-human mammal.

16. A method according to claim 15, wherein the polynucleotide construct encodes human C5aR.

17. A method according to claim 16, wherein the polynucleotide construct encodes a polypeptide comprising a sequence as shown in SEQ ID NO:3, or an allelic variant thereof.

18. A method according to claim 16, wherein the polynucleotide construct comprises a sequence as shown in SEQ ID NO:2, or an allelic variant thereof.

19. A method according to claim 15, wherein the polynucleotide construct encodes humanized C5aR.

20. A method according to claim 15, wherein the polynucleotide construct encodes a fragment of human C5aR.

21. A method according to claim 20, wherein the fragment encompasses at least one domain of human C5aR or a part thereof.

22. A method according to claim 21, wherein the fragment encompasses at least one extracellular domain of human C5aR.

23. A method according to any one of claims 15 to 22, wherein the polynucleotide construct further comprises a selectable marker.

24. A method according to any claim 23 wherein the selectable marker is the PGK-neo gene.

25. A method according to claim 23 or claim 24, wherein the selectable marker is flanked by loxP sites.

26. A method according to any one of claims 15 to 20, wherein the method further comprises disrupting the endogenous C5aR of the non-human mammal.

27. A method according to any one of claims 15 to 26, wherein the method comprises replacing the endogenous C5aR coding sequence or a fragment thereof with a corresponding human C5aR coding sequence or fragment thereof by way of targeted homologous recombination.

28. A method for evaluating at least one pharmacokinetic and/or pharmacodynamic effect of a candidate compound, the method comprising administering a candidate compound to a transgenic mammal according to any one of claims 1 to 13 or isolated tissue or cells obtained therefrom, and examining at least one pharmacokinetic and/or pharmacodynamic effect of the candidate compound on the transgenic mammal.

29. A method according to claim 28, wherein the at least one pharmacokinetic effect examined is an absorption parameter, a distribution parameter, a metabolism parameter, or an excretion parameter.

30. A method according to claim 28 or claim 29, wherein the at least one pharmacokinetic effect examined is volume of distribution, total clearance, protein binding, tissue binding, metabolic clearance, renal clearance, hepatic clearance, biliary clearance, intestinal absorption, bioavailability, relative bioavailability, intrinsic clearance, mean residence time, maximum rate of metabolism, Michaelis-Menten constant, partitioning coefficients between tissues and blood or plasma, fraction excreted unchanged in urine, fraction of drug systemically converted to metabolites, elimination rate constant, half-life, or secretion clearance.

31. A method according to claim 28, wherein the at least one pharmacodynamic effect is modulation of a phenotype associated with C5aR signalling.

32. A method according to claim 31, the method comprising (i) administering a candidate compound to a transgenic mammal according to any one of claims 1 to 13 or isolated tissue or cells obtained therefrom under conditions in which at least one phenotype associated with C5aR signalling is expressed; and (ii) monitoring development of the at least one phenotype following administration of the compound.

33. A method according to claim 32, wherein the method further comprises (iii) comparing the extent of the phenotype in the transgenic mammal or cells derived therefrom to which the compound was administered relative to a control mammal or cells derived therefrom, wherein any difference in the nature or extent of the phenotype when compared to the control mammal indicates the potential of the compound to modulate C5aR activity.

34. A method according to claim 31, the method comprising (i) administering a candidate compound to a transgenic mammal of the present invention or isolated tissue or cells obtained therefrom under conditions in which at least one phenotype associated with C5aR signalling is expressed; (ii) monitoring development of the at least one phenotype following administration of the compound; and optionally (iii) comparing the extent of the phenotype in the transgenic mammal to which the compound was administered relative to a control mammal, wherein any reduction or inhibition in the

nature or extent of the phenotype when compared to the control mammal indicates the potential of the compound to inhibit or reduce C5aR activity.

35. A method according to claim 31, the method comprising (i) administering a candidate compound to a transgenic mammal of the present invention or isolated tissue or cells obtained therefrom under conditions in which at least one phenotype associated with C5aR signalling is expressed; (ii) monitoring development of the phenotype following administration of the compound; and optionally (iii) comparing the extent of the phenotype in the transgenic mammal to which the compound was administered relative to a control mammal, wherein any enhancement in the nature or extent of the phenotype when compared to the control mammal indicates the potential of the compound to promote or enhance C5aR activity.

36. A method according to any one of claims 31 to 35, wherein the phenotype is a condition that is aggravated by C5aR signalling.

37. A method according to claim 36 wherein the phenotype is an immune complex disorder, an inflammatory or allergic disease, graft rejection or cancer.

38. A method according to any one of claims 31 to 35, wherein the phenotype is a condition that is alleviated or abated by increased C5aR signalling.

39. A method according to claim 38, wherein the phenotype is immunosuppression.

40. A method according to any one of claims 28 to 39 wherein the compound is selected from the group consisting of: a peptide, including a peptide derived from C5aR or C5a or other non-C5aR peptide and capable of inhibiting, reducing or repressing a C5aR function, a C5aR dominant-negative mutant; a non peptide inhibitor of C5aR; an antibody or antibody fragment which binds to C5aR and inhibits a C5aR function; a small organic molecule, a nucleic acid encoding said peptide derived from C5aR or C5a or other non-C5aR peptide inhibitor, an antisense nucleic acid directed against C5aR-encoding mRNA, an anti-C5aR ribozyme, and a small interfering RNA (RNAi) that targets C5aR gene expression.

41. A method according to claim 40, wherein the nucleic acid encodes a peptide derived from C5aR or a non-C5aR peptide inhibitor, an antisense nucleic acid directed

against C5aR-encoding mRNA, an anti-C5aR ribozyme, or a small interfering RNA (RNAi) that targets C5aR gene expression.